

laser energy of 90 mJ/cm^2 , selective ablation of individual layers with structure widths/structure spacings up to $20 \text{ }\mu\text{m}$ could be achieved.

Claims

1. Method for producing multiple layer systems, in which metallic layers by means of PVD technology and electrically non-conductive layers by means of PECVD technology are alternately deposited, wherein precise structuring of one or more layers is achieved through selective removal by using an organic intermediate layer (sacrificial layer).

2. Method according to Claim 1, characterized in that organic intermediate layers (sacrificial layers) based on Teflon-like compounds C_xF_y are used.

3. Method according to Claim 2, characterized in that organic intermediate layers (sacrificial layers) based on Teflon-like compounds C_xF_y are used and produced by means of PECVD.

4. Method according to at least one of the preceding claims, characterized in that the selective removal is performed by means of laser energy.

5. Method according to at least one of the preceding claims, characterized in that the selective removal is performed by means of laser energy and the laser energy lies in the range of $40\text{--}450 \text{ mJ/cm}^2$.

6. Method according to at least one of the preceding claims, characterized in that the metallic layers have copper, silver, gold, platinum, palladium, nickel, or aluminum as essential components.

7. Method according to at least one of the preceding claims, characterized in that the layer thickness of the electrically non-conductive layers does not exceed $1 \text{ }\mu\text{m}$.

8. Method according to at least one of the preceding claims, characterized in that the individual layers are also deposited on already structured layers.

9. Method according to at least one of the preceding claims, characterized in that the selective removal is performed by means of ion-beam technology.

10. Method according to at least one of the preceding claims, characterized in that the selective removal is performed by means of electron beam.

11. Method according to at least one of the preceding claims, characterized in that the substrate consists of polymer materials.